

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re PATENT APPLICATION of

FARBER et al.

Group Art Unit: 2177

Examiner: Homere, Jean R.

Continuation of Appln. No. 09/283,160

Filed: November 15, 2001

For: **IDENTIFYING AND REQUESTING DATA IN NETWORK USING IDENTIFIERS
WHICH ARE BASED ON CONTENTS OF DATA (AS AMENDED)**

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November 15, 2001

PRELIMINARY AMENDMENT

Hon. Commissioner of Patents
and Trademarks
Washington, D.C. 20231

Sir:

Please amend this application as follows:

IN THE TITLE:

Please replace the title with the following:

**--IDENTIFYING AND REQUESTING DATA IN NETWORK USING IDENTIFIERS WHICH
ARE BASED ON CONTENTS OF DATA—**

IN THE SPECIFICATION:

At the top of the first page, just under the title, insert:

This is a continuation of Application No. 09/283,160, filed April 1, 1999, which is a continuation of 08/960,079, filed October 24, 1997, now abandoned, which is a continuation of 08/425,160, filed April 11, 1995, now abandoned.

IN THE CLAIMS:

Please add the following new claims:

--54. (New) A content delivery method, in a system in which a plurality of files are distributed across a network of servers, at least some of the files being cached versions of files from a source server distinct from the network of servers, the content delivery method comprising:

for a particular file, determining a name using a given function of the data, said data being the data which comprises the contents of the particular file; and

in response to a request for the particular file, the request including at least the name of the particular file, causing the particular file to be provided from a given one of the servers of the network of servers.

55. (New) A content delivery method, in a system in which a plurality of files are distributed across a network of servers, at least some of the files being cached versions of files from a source server distinct from the servers in the network, wherein data in a file in the system may represent a digital message, a digital image, a video signal or an audio signal, the content delivery method comprising:

determining a name for a particular file, the name being determined using an MD5 function of the data, said data being the data which comprises the contents of the particular file; and

in response to a request for the particular file, the request including at least the name of the particular file, providing the particular data file from a given one of the servers of the network of servers, said providing being based on the determined name.

56. (New) A content delivery method, in a system in which a plurality of files are distributed across a network of servers, wherein some processors in the network communicate with each other using a TCP/IP communication protocol, the content delivery method comprising:

for a particular file, the contents of said file representing a digital image, determining a name for the particular file, wherein the name is determined using a given function of the data which comprises the contents of the particular file; and

in response to a request for the particular file, the request including at least the name of the particular file, providing the particular file from a given one of the servers of the network of servers.

57. (New) A content delivery method comprising:

causing a plurality of files to be distributed across a network of servers, at least some of the files being cached versions of files from a source server which is distinct from the network of servers;

for a particular file, determining a name, the name being determined using a given function of the data, said data used by said function being data which comprises the contents of the particular file; and

in response to a request for the particular file, the request including at least the name of the particular file, causing the particular file to be provided from a given one of the servers of the network of servers.

58. (New) A content delivery method, in a system in which a plurality of files are distributed across a network of servers, at least some of the files being cached versions of files from a source server which is distinct from the network of servers, the content delivery method comprising:

determining a name for a particular file, the name being determined using a given function of the data which comprises the contents of the particular file; and

in response to a request for the particular file, the request including at least the name of the particular file, providing the particular file from a given one of the servers of the network of servers,

wherein the contents of the particular file may represent a digital message, a digital image, a video signal or an audio signal.

59. (New) A method, in a network comprising a plurality of processors, some of the processors functioning as servers and some of the processors functioning as clients, wherein some processors in the network communicate with each other using a TCP/IP communication protocol, wherein a key is required to identify a file on the network, the method comprising:

storing some files on a first server in the network and storing copies of some of the files from the first server on a set of cache servers distinct from the first server;

for a particular file, determining a different cache key from an ordinarily used cache key for the file, the different cache key being determined using a message function MD5 of the data, wherein said data comprises the contents of the particular file; and

responsive to a client request for the particular file, the request including the different cache key for the file, causing the particular file to be provided to the client,

wherein the contents of the file may represent: a page in memory, a digital message, a digital image, a video signal or an audio signal.

60. (New) A content delivery method comprising:

distributing a set of files from a first server across a network of servers distinct from the first server;

applying an MD5 function to the contents of a particular file to obtain a True Name for the file;

in response to a request for the particular file, the request including at least the True Name of the particular file, causing the particular file to be provided from a given one of the servers of the network of servers, wherein the request for the particular file is resolved based on a measure of availability of at least one of the servers.

61. (New) A method as in claim 60 wherein the measure of availability for a server is based on at least one of:

- (a) a measurement of bandwidth to the server;
- (b) a measurement of a cost of a connection to the server, and
- (c) a measurement of reliability of a connection to the server.

62. (New) A content delivery method comprising:

distributing a plurality of files across a network of servers, at least some of the files being cached versions of files from a source server distinct from the servers in the network;

for a particular file, determining a True Name using a given function of the data which comprises the contents of the particular file;

obtaining a request for the particular file, the request including at least the True Name of the particular file; and

responsive to the request, causing the particular file to be provided from one of the servers of the network of servers.

63. (New) A content delivery method, comprising:

distributing files across a network of servers;

for a particular file having a contextual name specifying a location in the network at which the file may be located, determining another name for the particular file, the other name including a data identifier determined using a given function of the data, where said data used by the given function comprises the contents of the particular file;

obtaining a request for the particular file, the request including the contextual name and the other name of the particular file,

responsive to the request, providing the particular file from one of the servers of the network of servers, said providing being based on the other name of the particular item.

64. (New) A content delivery method, comprising:

distributing a set of files across a network of servers;

for a particular file representing a digital image, the file having a contextual name specifying a location in the network at which the file may be located, determining another name for the particular file, the other name including a True Name for the file which was determined using a message digest function of the data, where said data used by the given function comprises the contents of the particular file;

obtaining a request for the particular file, the request including the contextual name and the True Name of the particular file; and

responsive to the request, providing the particular file from one of the servers of the network of servers, said providing being based on the True Name of the particular item.

65. (New) A method comprising:

applying an MD5 function to the contents of an image file containing data representing a digital image to obtain a True Name for the file;

distributing copies of the image file from a first server across a network of servers distinct from the first server;

obtaining a request for the image file, the request including at least the True Name of the file; and

responsive to the request, causing a copy of the image file to be provided from one of the servers of the network of servers.

IN THE ABSTRACT OF THE DISCLOSURE

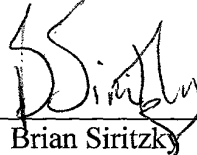
Please replace the Abstract of the Disclosure with the attached new Abstract of the Disclosure.

REMARKS

By this Amendment, new claims 54 to 65 have been added. In addition, a new Abstract has been provided and the title has been replaced. No new matter has been added by these amendments, and approval of these amendments to the specification, title and abstract is respectfully requested.

Respectfully submitted,

By



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Abstract of the Disclosure

In a system in which a set of data items are distributed across a network of servers, at least some of the data items being cached versions of data items from a source server, a content delivery method includes determining a data identifier for a particular data item, the data identifier being determined using a given function of the data comprising the particular data item; and responsive to a request for the particular data item, the request including at least the data identifier of the particular data item, providing the particular data item from a given one of the servers of the network of servers. The request for the particular data item may be resolved based on a measure of availability of at least one of the servers, where the measure of availability may be a measurement of bandwidth to the server; a measurement of a cost of a connection to the server, and/or a measurement of a reliability of a connection to the server. The function used to determine the identifier may be a message digest function or a hash function.

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